

REMARKS

Applicants appreciate the time taken by the Examiner to review Applicants' present application. This application has been carefully reviewed in light of the Official Action mailed August 7, 2003. Applicants respectfully request reconsideration and favorable action in this case.

Summary of claims

Claims 1-5 are pending in the application. Claims 1-5 stand rejected by the Examiner. None of the claims have been amended. Claims 1-5 therefore remain pending in the application.

Rejections under 35 U.S.C. § 103

Claims 1, 3 and 4 stand rejected as being unpatentable over U.S. Patent No. 5,149,976 ("Sipma") in view of U.S. Patent No. 5,345,085 ("Prior"). Claims 2 and 5 stand rejected as being unpatentable over Sipma in view of Prior, as applied to Claims 1, 3 and 4, and further in view of U.S. Patent No. 5,393,987 ("Abboud"). Applicants respectfully traverse these rejections.

As to claims 1 and 4, the Examiner states that Sipma discloses an apparatus and method for determining the position of feature within a scan that is effective at the operating frequency of the scan and using a limited bandwidth video signal. In particular, the Examiner states that Sipma teaches the steps of: determining a reference feature to be an edge over which a video signal changes abruptly from one level to a higher or lower level; and determining whether the beam is only turned on over a short region of the scan. Applicants respectfully disagree and submit that Sipma does not teach these limitations of the claims.

In regard to determining that a reference feature is determined to be an edge over which a video signal changes abruptly from one level to a higher or lower level, the Examiner indicates that this is disclosed by Sipma at col. 2, lines 17-22, col. 6, lines 40-50, col. 8, lines 37-48, col. 14, lines 24-59 and col. 15, lines 1-11. In fact, none of the cited portions of Sipma disclose this limitation of the claims. Instead, the cited portions of Sipma disclose that a "fiducial mark" is to be identified, rather than an edge as recited in the claims (see, e.g., col. 3, lines 12-15). Additionally, the fiducial mark is not identified by an abrupt change in the video signal, but instead by repeated scans of the mark and averaging of detected crossings (id.). In fact, it appears that Figure 12 of the reference (which is discussed in the portions of the reference

cited by the Examiner) shows that the video signal does not change perceptibly across the edges of the fiducial mark (compare curves 232a to 234a, and curves 232b to 234b).

Consequently, it is apparent that the first limitation of the claims is not disclosed by Sipma.

In regard to the limitation of determining whether the beam is only turned on over a short region of the scan, the Examiner states that this is disclosed by Sipma at col. 3, lines 8-43. Sipma actually discloses that the beam is blanked during all but the final command of the initializing sequence (col. 3, lines 32-34). Because the beam is blanked, there is no need to determine whether the beam is only turned on over a short region of the scan. Sipma therefore fails to disclose this limitation as well.

The Examiner admits that Sipma does not disclose the third limitation of representing the degree of overlap between the beam on portion of the scan and the higher video level part of the feature as the total video signal accumulated in that scan. The Examiner asserts that this limitation is instead disclosed by Prior at col. 12, line 30 – col. 13, line 30. The cited portion of Prior, however, does not disclose this limitation. Prior discloses that a beam is “strobed” to expose a single pixel of a raster scan (col. 12, lines 36-41). Prior does not address in any way determining a total video signal accumulated in a scan, or representing overlap between the beam and a higher video level as the total video signal, as recited in the claims.

Because the references fail to disclose all of the limitations of claims 1 and 4, the Examiner has not made a prima facie case of obviousness (see M.P.E.P. 2142, 2143), and cannot properly reject the claims under 35 U.S.C. §103. Applicants therefore respectfully request that the rejection of these claims be withdrawn.

As to claim 3, the Examiner states that Sipma discloses an apparatus and method for practicing the invention. In regard to the limitation of choosing a predetermined plurality of pixels of said raster scan to be calibrated, the Examiner states that Sipma discloses this limitation at col. 2, lines 53-68 and col. 7, lines 42-58. In fact, col. 2, lines 53-68 of Sipma discloses deflecting a beam using different dwell times and spacings to achieve different gradient patterns. Col. 7, lines 42-58 discloses detection of a fiducial mark. Neither of the cited portions of Sipma appears to have anything to do with choosing a predetermined plurality of pixels of said raster scan to be calibrated, as recited in the claim.

In regard to the limitation of moving at least one feature at the image plane having video contrast adjacent to the landing point of said plurality of pixels, the Examiner states that Sipma discloses this limitation at col. 14, lines 28-68. Again, the cited portion of Sipma discloses detection of a fiducial mark. There is no mention of moving features at the image plane, and

since no pixels have been selected for calibration, no such image-plane feature could be moved adjacent to the landing point of such pixels. Clearly, then, Sipma fails to disclose this limitation of the claim as well.

Because the references fail to disclose these limitations of claim 3, the Examiner has not made a *prima facie* case of obviousness (see M.P.E.P. 2142, 2143), and cannot properly reject this claim under 35 U.S.C. §103. Applicants therefore respectfully request that the rejection of claim 3 be withdrawn.

As to claims 2 and 5, the Examiner states that Prior discloses most of the steps of the method. Applicants respectfully disagree, however.

In regard to the limitation of using a sample having a black to white video transition as a reference feature, the Examiner asserts that this is disclosed by Prior at col. 12, lines 30-41. In actuality the cited portion of Prior discloses the blanking and unblanking of a beam to create a strobed beam. There is no mention of using a sample having a black to white video transition as a reference feature, as recited in the claims.

In regard to the limitations of advancing the unblanked period by a small increment each succeeding scan and sampling the amplifier output at a time delay following the unblank-blank period, the Examiner indicates that this is disclosed at col. 2, lines 26-39 and col. 6, lines 35-68 of Prior. Applicants respectfully submit that these two cited portions of the reference present contrary teachings and therefore do not teach the indicated claim limitations. More particularly, the passage in col. 2 of Prior mentions advancing the beam, but the passage at col. 6 which discusses sampling the amplifier output specifically points out that the beam is stationary (col. 6, line 51). It is therefore clear that Prior does not teach advancing the unblanked period by a small increment each scan and sampling the amplifier output from the advanced beam, as recited in the claims.

In regard to the limitation of arranging the successive samples for giving a video profile representative of the video profile of a slow scan with a wide beam, the Examiner states that this is disclosed at col. 10, lines "42-38." Applicants understand this to mean lines 38-42, but no support for the Examiner's assertion is found in this part of the reference. In fact, the remainder of col. 10 does not appear to provide any disclosure of arranging successive samples to give a video profile at all, much less a video profile of a slow scan with a wide beam.

Because Prior fails to disclose these limitations of claims 2 and 5, the Examiner has not made a *prima facie* case of obviousness (see M.P.E.P. 2142, 2143), and cannot properly reject

these claims under 35 U.S.C. §103. Applicants therefore respectfully request that the rejection of claims 2 and 5 be withdrawn.

As indicated above, Applicants believe the portions of the references cited by the Examiner in support of the rejections do not actually provide the disclosure suggested by the Examiner. If the Examiner disagrees, Applicants respectfully request that the Examiner point out the specific language that is believed to disclose the missing claim limitations. Applicants request that the Examiner recite the specific supporting language of the references, rather than large portions of the reference text, in order to enable Applicants to address the Examiner's concerns with specificity. Applicant also request that the Examiner explain the relevance of such cited portions of the references, since the references do not explicitly disclose the limitations recited in the claims.

Applicants have now made an earnest attempt to place this case in condition for allowance. Other than as explicitly set forth above, this reply does not include an acquiescence to statements, assertions, assumptions, conclusions, or any combination thereof in the Office Action. For the foregoing reasons and for other reasons clearly apparent, Applicants respectfully request full allowance of claims 1-5. The Examiner is invited to telephone the undersigned at the number listed below for prompt action in the event any issues remain.

The Director of the U.S. Patent and Trademark Office is hereby authorized to charge any fees or credit any overpayments to Deposit Account No. 50-0456 of Gray Cary Ware & Freidenrich, LLP.

Respectfully submitted,

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